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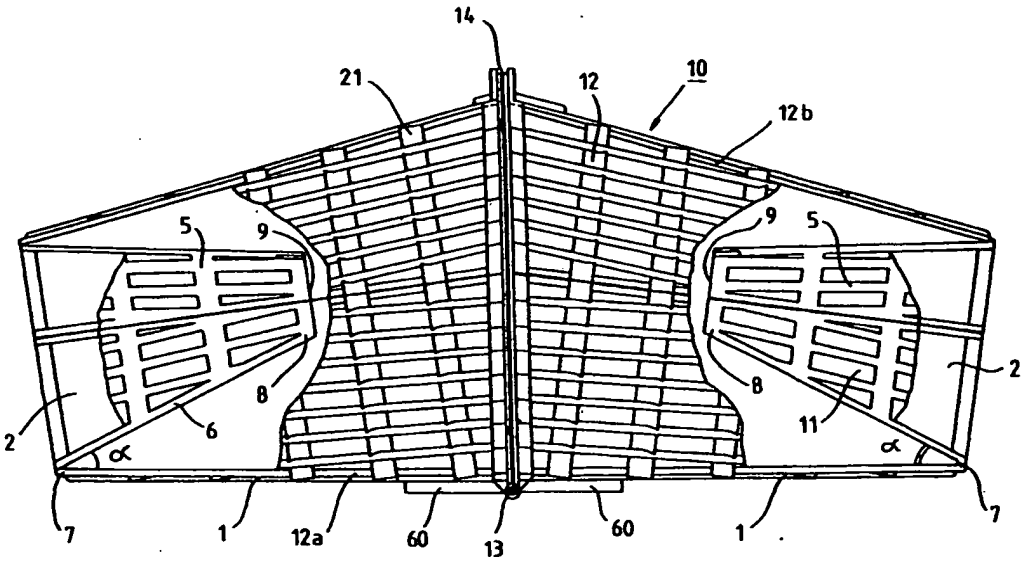

(57) Abstract

The object of the invention is a horizontal pot for catching arthropods, the said pot (10) consisting of an essentially cylindrical basket (12) and of an inwards turning mouth (11) at at least one of its ends. The throat (9) of the mouth or mouths (11) is at such a height above the bottom (1) of the pot (10) basket (12) that a straight line drawn from the lower edge (8) of the throat of the mouth to the lower edge (7) of the mouth opening (2) forms an angle (α) essentially greater than 20° and preferably greater than about 25° with respect to the essentially horizontal basket bottom (1), to prevent the catch from escaping from the pot.

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TRAP FOR CATCHING ARTHROPODS

The object of the invention is a horizontal pot for catching arthropods, the said pot consisting of an essentially cylindrical basket and of an inwards turning mouth at at least one of its ends. The invention relates particularly to an elongated one- or two-mouthed trap which is lowered, for example, to the bottom of a lake into a horizontal position, so that the mouths of the trap are essentially parallel with the bottom.

Crayfishing with pots is today the most common method of catching crayfish. In pot-catching the traps do not necessarily need to be continuously tried and emptied, which presupposes that the crayfish are not able to escape from the trap used. In effective crayfishing several traps are used simultaneously.

In crayfishing, pots of numerous different shapes are used, which have been developed from known traps used mainly for fishing. Crayfish pots are divided into vertical pots and horizontal pots according to the location of the mouths.

Most popular of the vertical pots are collapsible cylindrical pots made of synthetic string. Their support structures usually consist of hoops made of galvanized wire fixed to handles on the sides of the pot, which extend over the mouths.

Horizontal pots are usually cylindrical, elongated, one- or two-mouthed traps which are lowered to the bottom into a horizontal position, the mouth or mouths being located at the ends of the trap.

The area used for catching determines the shape of the pot chosen for the crayfishing.

The bait used in crayfishing is important because the

crayfish are lured into the pots specifically with different types of baits. In horizontal pot types the bait is usually fixed to a hook bent of wire or similar material and situated in the middle of the pot.

A disadvantage of the foregoing known method is that the trying and emptying of the pots is not hurried, because it is thought that the crayfish which has entered the pot cannot escape. The crayfish try, however, to get out of the trap as quickly as possible and are surprisingly clever at finding their way out of pots.

Placing the pots used in crayfishing on uneven lake bottoms often causes difficulties. Vertical pots fall over on their sides and the crayfish can easily escape from fallen pots. When crayfishing in strongly flowing rivers, the weight of the pot needs to be increased, for example, by means of stones, in order to keep the traps in the correct place and position.

The object of the present invention is to eliminate the above-mentioned problems and to obtain a device which does not have the above disadvantages.

It is characteristic of the invention that the throat of the mouth or mouths is/are at such a height above the pot basket bottom that a straight line drawn from the lower edge of the mouth's throat to the lower edge of the mouth opening forms an angle essentially greater than 20° and preferably greater than about 25° with respect to the bottom of the essentially horizontal basket, in order to prevent the catch from escaping from the pot.

By means of the novel mouth structure relating to the invention a trap is obtained which ensures to a high degree that the crayfish stay in the pot. Through the design of the - preferably hexagonal - trap and the funnel-shaped mouth of a corresponding shape, the crayfish are prevented

almost completely from escaping but the catching properties of the pot are not diminished. The crayfish that have entered the pot can be removed from the trap easily, without damaging the crayfish. Similarly, thanks to the shape of the outer surface of the pot, and because its edge provides protection, the crayfish seek their way effectively into the mouth of the pot.

The invention is exemplified in greater detail below with reference to the appended drawings, in which

Figure 1 shows the device relating to the invention as seen from the side and as a partly cross-sectional view.
Figure 2 shows the basket part of figure 1 as seen from above and as a partly cross-sectional view.
Figure 3 shows the basket part of figure 2 as seen in the direction of the mouth.
Figure 4 shows the same view of the basket part as figure 3, but diagrammatically.
Figure 5 shows the bait fixing device as two views at right angles to each other.
Figures 6A and 6B show the frame for fixing the weight.
Figures 7A and 7B show the weight used in the pot.
Figures 8A and 8B show the locking device used in the pot.
Figure 9 shows the locking shaft of the hinge used in the pot.

Figure 1 shows the trap 10 relating to the invention as seen from the side and as a partial cross-section. The elongated horizontal pot 10, at both ends of which is located a mouth 11, is placed firmly and horizontally on the bottom of a water area. The pot 10 adapts to different bottom constructions. The basket 12 of the pot 10 consists preferably of two hexagonal basket parts 12a and 12b, which are joined end to end by means of a hinge 13 and locked with locking device 14. The pot basket 12 thus has an essentially straight and even bottom 1, the width of which

is smaller than the total width of the pot. The width of the bottom 1 is, however, relatively great, being at least about a half of the total width of the pot. In this way, a protective entry passage is obtained for the crayfish, along which they easily come to the throat 9 of the mouth and further along inside the pot. Thanks to the width of the bottom 1, the pot easily remains in the correct position.

A hinged fastener 13, provided with an shaft 15, is fixed to the lower edge of the basket parts 12a, 12b, on the bottom 1 of the basket 12, joining the basket parts together; the shaft can be quickly removed, whereupon the two basket parts of the pot detach from each other. As the basket parts 12a and 12b are suitably designed to be symmetrical with respect to the plane running through the locking device 14 and the hinge 13, that is, they are identical in their main shape, the basket parts can be piled on top of each other, for example, for storage and transport.

The pot 10 can be opened and closed quickly and easily by means of the locking device 14, positioned preferably in the top part of the basket 12. Different positioning of the locking device 14 is obviously also possible, but the position opposite the hinge 13 allows the best useability and stability. The crayfish can be removed quickly and easily from the pot 10 without damaging them, because opening the pot in this way provides a very large opening for removal.

To ensure that the pot 10 remains at the bottom of the lake or river, and in the correct position, the bottom 1 of the basket 12 is provided with metal weights 17, which are placed in individual, detachable compartments equipped with racks or frames 60 on the lower surfaces of both basket parts 12a and 12b.

According to the invention, the planes of the lower surfaces 6 of the mouths 11 and the bottoms 1 of the basket parts 12a, 12b form a sufficiently large angle α, in order that the crayfish lured into the trap with a bait 31 will not find a way out of the trap 10, but will seek their way to the corners of basket parts 12a, 12b. The diameter of the funnel-shaped mouth 11 is large enough for the crayfish to seek their way easily and unobstructed to the trap. Thanks to the structure of the mouth 11, the crayfish caught in the pot 10 remain better in the pot and the crayfish will not attempt to escape from the protective pot 10 as easily. Through the structure of the trap, a spacious, effective pot is obtained, which in addition has room for storing even a large crayfish catch. When crayfishing, the bait is fixed firmly inside the pot so that the crayfish cannot reach the bait from outside the pot 10. Fixing the bait is easy and the pot 10 can rapidly be made ready for catching. Thanks to the plastic material which withstands heat, the pot 10 can be disinfected before taking into use at the beginning of the crayfishing season and it can more easily be kept clean.

To achieve the result described above, the throat 9 of the pot mouth is situated high enough above the bottom of the basket, so that the crayfish cannot reach it but instead withdraw, for example, under the mouth 11. It is characteristic of the invention that the angle α between a straight line drawn from the lower edge 8 of the mouth's throat 9 to the lower edge 7 of the mouth opening 2 and the bottom 1 of basket 12 is markedly greater than 20°, and preferably greater than about 25°. In the embodiments relating to the figures, this angle is about 28°, but an even greater angle, such as one of the order of 30°, is possible. Moreover, according to the invention, the lower surface 6 of the mouth 11 is almost plane-like, at least in the main, but provided with a ladder construction transverse to the mouth, or the like, as can clearly be seen in figure 3. The cross-section of the pot mouth may be

a hexagon, but the most essential factor is that the upper part 5 of the mouth 11 is vault-like or similar, and at its widest point 4 at most slightly wider than the width 3 of the lower surface 6 of the mouth. Figures 3 and 4 show a preferred mouth design and structure.

Figure 2 shows the pot 10 basket 12 as seen from above and as a partly cross-sectional view. The figure shows the structure of the basket parts 12a, 12b made of plastic material. The hexagonal basket 12, the volume of which is in this case nine litres, is divided into six parts with solid hoops 20. The hoops 20 are joined with solid supports 21 spaced a regular intervals. A light and durable construction has thus been achieved. At the ends of the basket parts 12, which taper off and point away from each other, funnel-shaped mouths 11 have been situated inside the trap at both entry openings. The structure of the mouth 11 corresponds to the structure of the basket parts. On the upper surface of the basket parts 12a, 12b is situated a level 24, provided with an opening 23. In the opening 23 of the level 24 is fixed either the locking device 14 or the hook device 30 for fastening the bait. On the front edge of the basket part, as an extension to the level 24, there are openings 26 for the fastening hooks of the locking device 14.

Figure 3 shows the basket parts 12a and 12b of the pot 10 from the front, as seen from the direction of the mouth. On the lower edge of the front of the hexagonal basket 12 are hinged fasteners 13. The basket part is divided into six parts with hoops 20, which are joined with supports 21 spaced at regular intervals. At the bottom of the basket 12 can be seen the entry opening or throat 9 of the mouth 11. The supports on the bottom surface 6 of the hexagonal mouth 11 form a surface pattern resembling a ladder construction, which facilitates the advancing of the crayfish in the mouth, which is otherwise a slippery thermoplastic surface. At the upper edge of the basket part 12 there are openings

26 for the fastening hooks of the locking device 14.

Figure 4 shows the same view as figure 3 but diagrammatically.

Figure 5 shows the hook device 30 to which the crayfish bait 31 is fixed, as seen from the side and as seen from the front in figure 5. The hook device 30 is stainless steel wire bent into hook-like form. The upper part of the hook device 30 is bent into a tightener 33 operating like a spring. The bait 31 is pushed through the sharp point of the hook device along the hook device, after which the bait is locked into the hook device 30 by pushing the point of the hook again into the bait. The tightener part 33 of the hook device 30 is then fixed to the opening 23 of the level on the upper surface of the basket 12 and locked by pressing it into it.

The bait and choice of bait play a significant role in crayfishing. The crayfish are lured into the pot with a fresh and solid bait, the smell of which spreads as far as possible. When crayfishing, the bait is fixed firmly inside the pot 10, so that the crayfish will not be able to reach the bait from outside the pot 10.

Figure 6 shows as a side view and as seen from the inner surface, a frame 60 to which the weight keeping the pot on the bottom is placed. Frame 60 is fixed at one end to the hinge shaft 15 of the basket parts 12a, 12b, and at the other end pushed between the casing structures of the basket parts or other suitable holes.

Figure 7 shows a side view and as seen from above the weight 61 which keeps the pot 10 on the bottom. The weight is placed in the frame 60, which is fixed to the basket parts 12a and 12b. The weight 61 is made of stainless steel and it is heavy enough to keep the pot 10 in the correct position on the bottom.

Figure 8 shows the locking device 14 as seen from above and as a side view. The locking device comprises at one end, for example, three hooks, which lock into the openings 26 of one of the basket parts 12a, and at the other end a vertical hook which locks into the opening 23 of the other basket part 12b or other hole. The string for lowering and lifting the trap can be fastened, for example, to the middle one of the three hooks of the locking device 14, and be led out from between the opposite edges of the basket parts.

Figure 9, on the other hand, shows the shaft 15 of the hinge 13, the said shaft being a straight bar and can thus be moved through the hinged fasteners 13 to detach the basket parts from each other.

It is obvious to one skilled in the art that the different embodiments of the invention may vary within the scope of the claims presented below.

CLAIMS

1. A horizontal pot for catching arthropods, the said pot (10) consisting of an essentially cylindrical basket (12) and of an inwards turning mouth (11) at at least one of its ends, characterized in that the throat (9) of the mouth or mouths (11) is/are at such a height above the pot (10) basket (12) bottom (1) that a straight line drawn from the lower edge (8) of the mouth's throat to the lower edge (7) of the mouth opening (2) forms an angle (α) essentially greater than 20° and preferably greater than about 25° with respect to the bottom (1) of the essentially horizontal basket, in order to prevent the catch from escaping from the pot.

2. A pot as claimed in claim 1, characterized in that the lower surface (6) of the mouth or mouths (11) is essentially plane-like and provided with ladder constructions or the like, transverse to the mouth, that the upper part (5) of the mouth is vault-like and at its widest point (4) at most slightly wider than the width (3) of the mouth's lower surface, and that the said angle of the mouth's lower surface with respect to the bottom is of the order of 30°.

3. A pot as claimed in claim 1, characterized in that the pot (10) basket (12) has an essentially straight and even bottom (1), the width of which is essentially smaller than the total width of the pot but, nevertheless, at least about a half of the pot's total width, to provide a protective entry passage for the catch, and that the cross-section of the pot basket is preferably a hexagon.

4. A pot as claimed in claim 1, characterized in that on the bottom (1) of the basket (12) is formed a frame or frames (60) for fixing one or more weights (61).

5. A pot as claimed in claim 1, characterized in that the

pot basket (12) consists of two basket parts (12a, 12b), which are joined with each other so that they can turn by means of the hinge (13) on the bottom (1) and can be locked into a closed position with the ends of the basket parts against each other, by means of the locking device (14) essentially on the opposite side of the basket (12) with respect to the hinge.

6. A pot as claimed in claim 5, characterized in that the pot (10) is two-mouthed and symmetrical with respect to the plane running through the hinge (13) and the locking device (14), and that the hinge shaft (15) can be removed, whereupon the pot halves can be piled on top of each other for storage.

7. A pot as claimed in any of the foregoing claims, characterized in that it comprises a bait fixing means (30), which can be locked in the area around the locking device (14) and that the height of the pot basket (12) is at its greatest in the plane running through the hinge and the locking device or in its vicinity, in order to create space in the area of the throat (9) of the mouth (11).

8. A pot as claimed in any of the foregoing claims, characterized in that the basket parts (12a, 12b) and the mouths (11) are made as one piece of plastic which withstands the required disinfection.

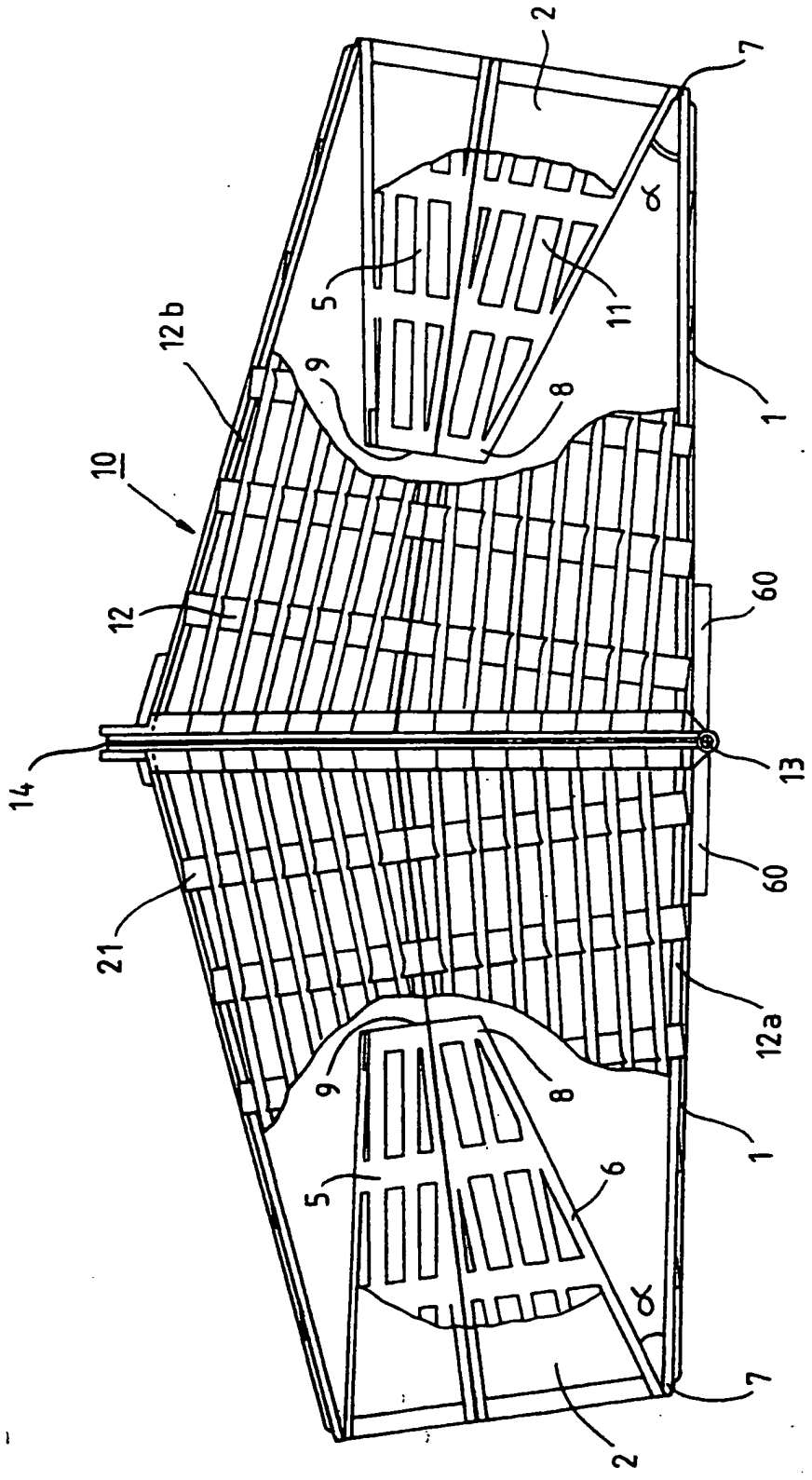

FIG 1

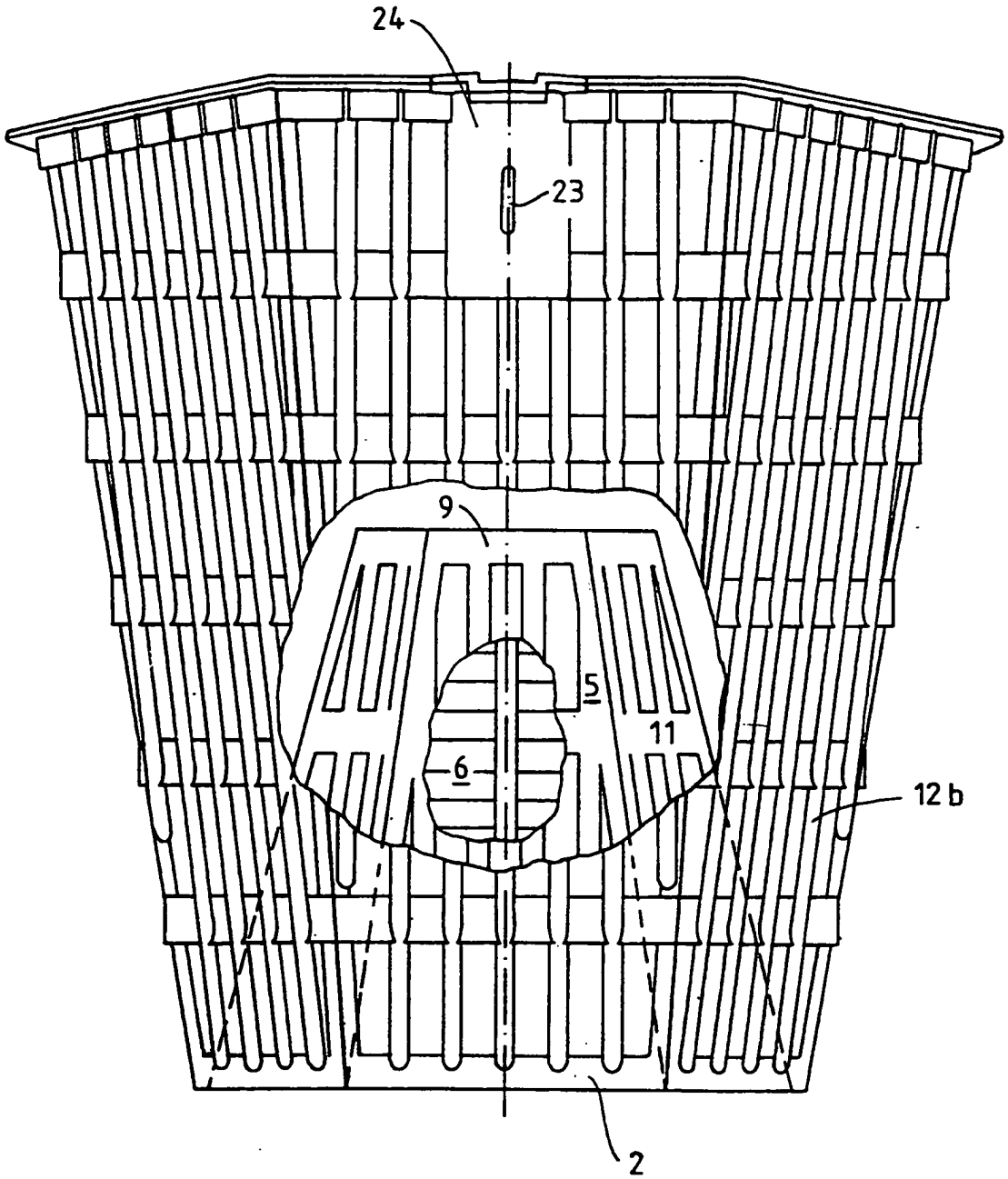

FIG 2

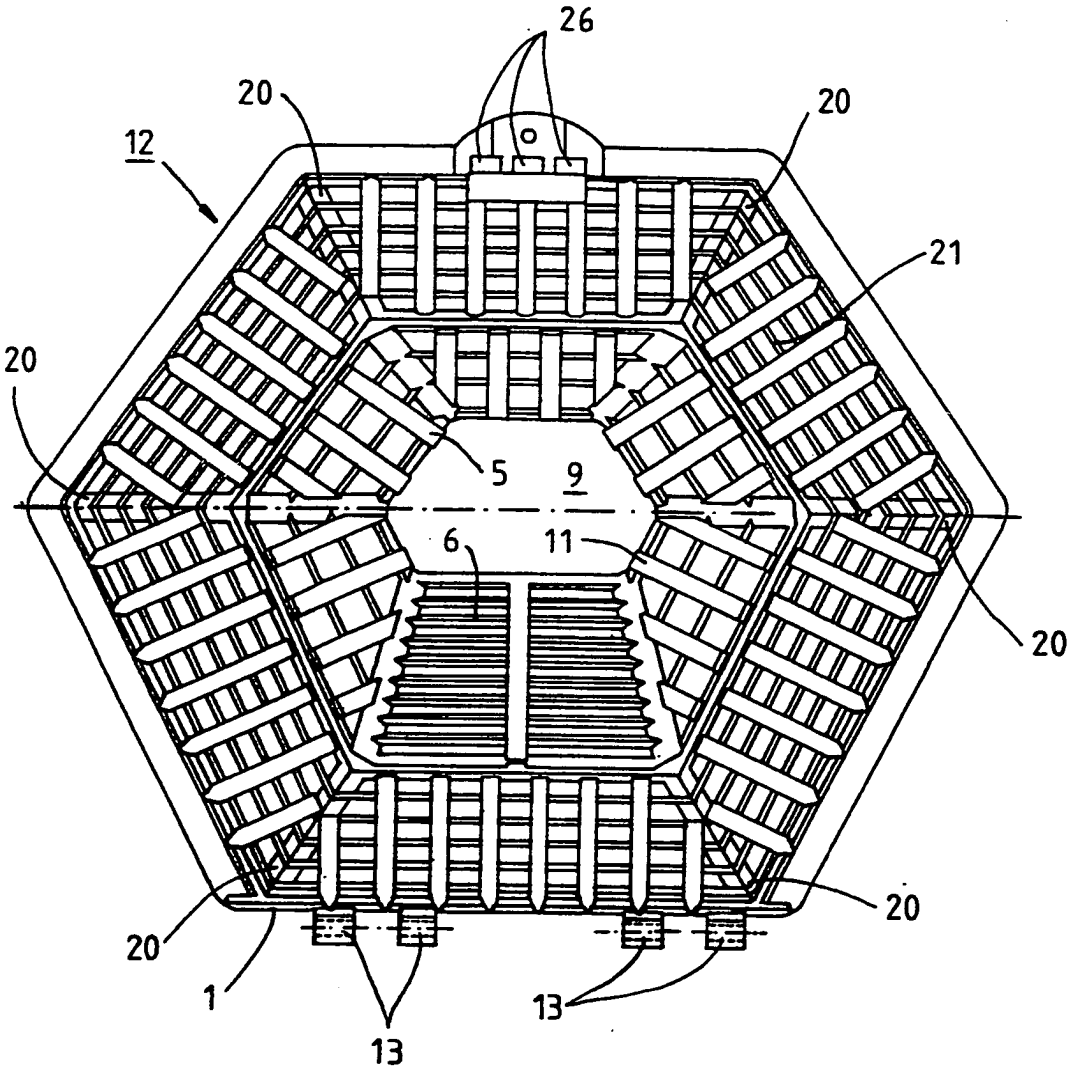

FIG 3

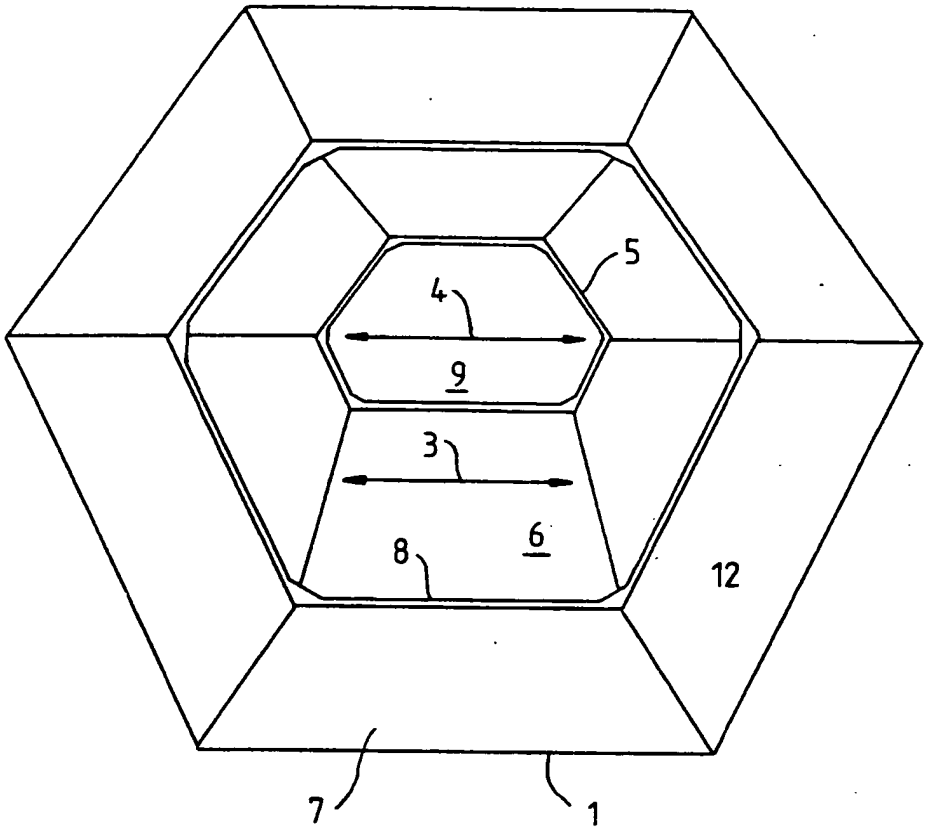

FIG 4

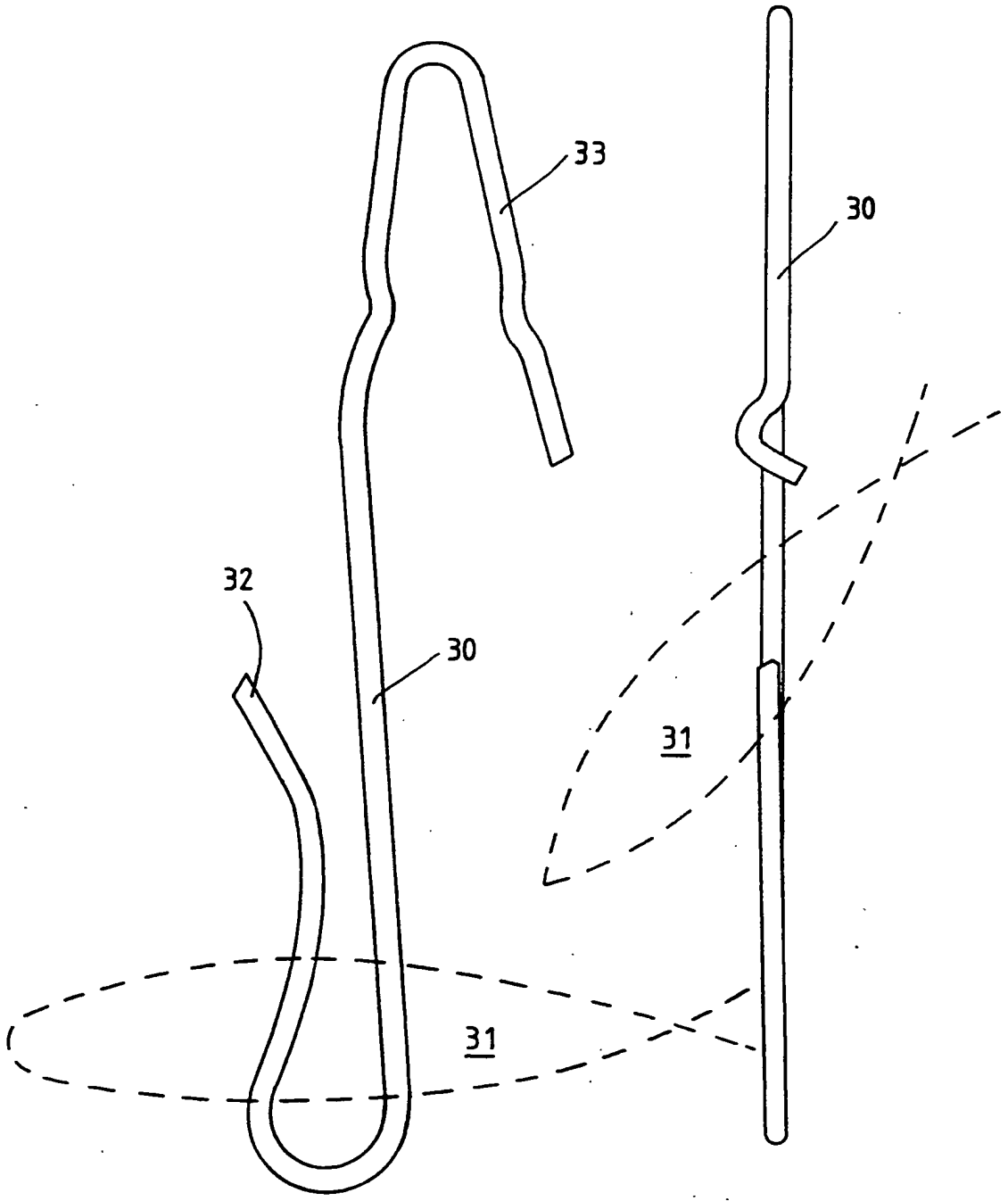

FIG 5

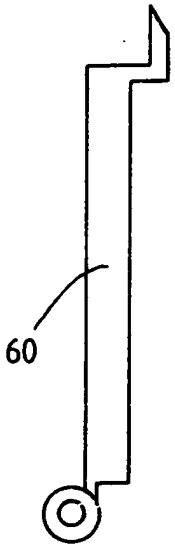

FIG 6A

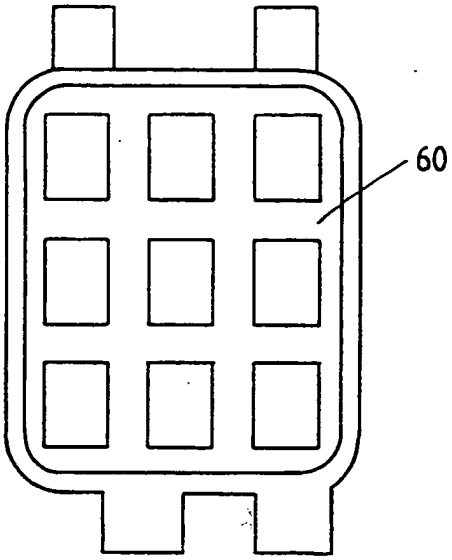

FIG 6B

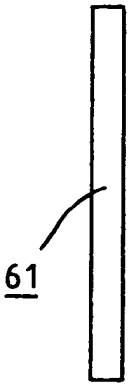

FIG 7A

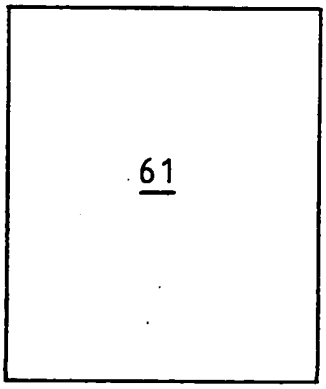

FIG 7B

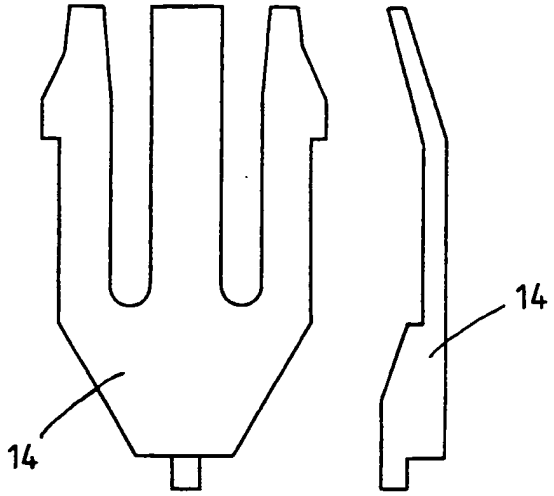

FIG 8A FIG 8B

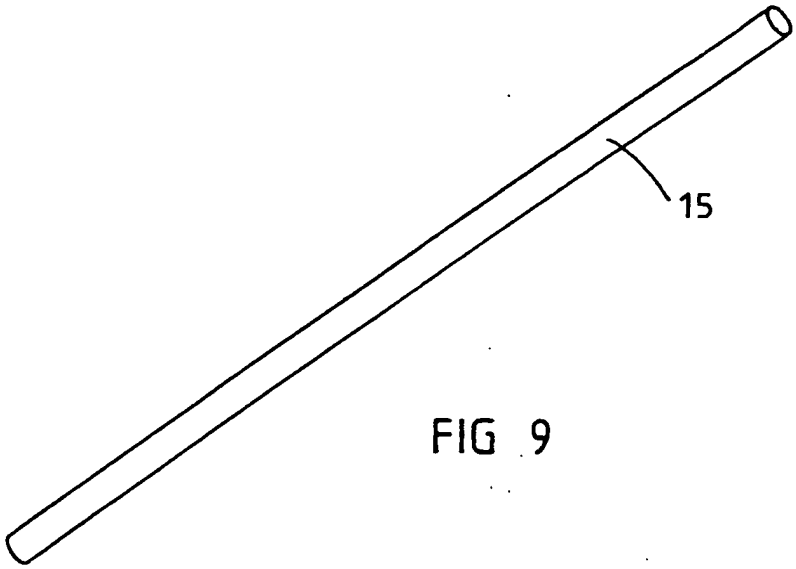

FIG 9

INTERNATIONAL SEARCH REPORT

International Application No PCT/FI 92/00033

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all)[6]

According to International Patent Classification (IPC) or to both National Classification and IPC

IPC5: A 01 K 69/06

II. FIELDS SEARCHED

Minimum Documentation Searched[7]

Classification System	Classification Symbols
IPC5	A 01 K

Documentation Searched other than Minimum Documentation to the Extent that such Documents are included in Fields Searched[8]

SE,DK,FI,NO classes as above

III. DOCUMENTS CONSIDERED TO BE RELEVANT[9]

Category *	Citation of Document,[11] with indication, where appropriate, of the relevant passages[12]	Relevant to Claim No.[13]
X	US, A, 4221070 (SAMUEL SWINDELL) 9 September 1980, see fig. 1,2, 3, 9, col. 6, l. 64 - col. 7, l. 3	1-4
Y	--	5-8
Y	US, A, 3699702 (RICHARD F. LANKENAU) 24 October 1972, see fig. 4, 8 and col. 2, l. 36	5-8
	--	
X	US, A, 4611424 (JOHN L. TARANTINO) 16 September 1986, see col. 3 lines 46-48	1-2
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IV. CERTIFICATION

Date of the Actual Completion of the International Search	Date of Mailing of this International Search Report
19th August 1992	1992 -09- 09
International Searching Authority	**Signature of Authorized Officer**
SWEDISH PATENT OFFICE	Kerstin Boije Jansson

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ANNEX TO THE INTERNATIONAL SEARCH REPORT ON INTERNATIONAL PATENT APPLICATION NO.PCT/FI 92/00033

This annex lists the patent family members relating to the patent documents cited in the above-mentioned international search report.
The members are as contained in the Swedish Patent Office EDP file on 01/07/92
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US-A- 4221070	80-09-09	AU-D- 2989677	79-04-26
		FR-A- 2371140	78-06-16
US-A- 3699702	72-10-24	NONE	
US-A- 4611424	86-09-16	NONE	